Release in Full

HISTORY

Ref. 38

W. C. PARTEE
CATLIN No. 1

Township 28 North, Range 51 East; Section 26
C NE SW

Roosevelt County, Montana

Elevation: 2230 KB
2218 Grnd

Spudded: 6- 4-65
Completed: 6-13-65

P & A

Roger B. Larsen
Consultant Geologist

PERMIT
APPLICATIONS

DAILY PENETRATION RECORD

Date	From	To	Footage	Drilling Time	Trip Time	Rig Time	Other
6-4-65	0	1025	1025	7-1/4 hrs			Ran 35 joints 20# 8-5/8" casing; landed at 1012' (KB) cemented w/510 sx. Plug down 6:45 AM, 6-5-65; WOC 12 hrs; drilled plug at 7:15 PM, 6-5-65
6-5-65	1025	1600	575	4			
6-6-65	1600	3613	2013	18-1/4	2		3-3/4 hrs: Twisted off Kelly Pin - waiting on overshot and Kelly
6-7-65	3613	4189	576	12-1/4	5-1/4	-1/4	2 hrs: fishing 4-1/4 hrs working drill pipe loose
6-8-65	4189	4661	472	14-3/4	7-1/4		2 hrs: drilling on iron
6-9-65	4661	4998	337	14-3/4	7-1/4	2	
6-10-65	4998	5216	218	15-3/4	6-1/2	-1/2	1-1/4 hrs: circulating samples
6-11-65	5216	5471	255	17-1/2	6-1/2		
6-12-65	5471	5624	153	8	1-1/2		1/2 hr: reaming to bottom at 5471 2 hrs: circulating samples 4 hours: logging (ran SONIC-CALIPER from 5622 to 4122, LATERO-LOG - GAMMA RAY from 5619 to 1011 2 hrs: laying down drill collars 4 hrs: plugging
6-13-65	TOTAL DEPTH : 5624						1 hr: plugging

BIT RECORD

No.	Type	Hole Size	From	To	Footage	Hours Run	Remarks
	HTC-OSC Rerun	12-1/4"	0	1025	1025	7	Surface Hole
1	Reed-YT3A-J	7-7/8	1025	3095	2070	14	
2	Reed-YT3-J	"	3095	3613	518	6	Twisted off kelly pin at 3613'
3	Security-S4-J	"	3613	4143	530	10-1/2	
4	Reed-YT1A-J	"	4143	4531	388	8-1/2	Lost 1/2 cone
5	Security-S6-J	"	4531	4574	43	2-1/2	Drilled on iron
6	Reed-YS1-J	"	4574	4662	88	5-3/4	Drilled on iron
7	HTC-OWV-J	"	4662	4955	293	13-1/4	
8	HTC-OWV-J	"	4955	5132	177	10-1/4	Smooth and 1/4" out of gauge
9	Reed-YS1G-J	"	5132	5156	24	3-1/2	
10	Reed-YHG-J	"	5156	5341	185	11-1/2	
11	Security-M4N-J	"	5341	5471	130	9-3/4	
12	Security-M4N-J	"	5471	5624	153	10	TOTAL DEPTH

TOTCO DEVIATION SURVEY

Depth	Degrees
606	-3/4
1025	-3/4
3095	1
4143	1-1/2
4531	1-1/4
5132	1-1/2

PLUGGING PROCEEDURE

No.	From	To	Footage	Formation	Sacks
1	5120	5080	40	Tyler	20
2	4120	4100	20	Vanguard	20
3	3575	3490	85	Lakota	20
4	3110	3085	25	Muddy	20
5	1012	951	61	Bottom of surface	15
6	34	14	20	Top of surface	5

SAMPLE DESCRIPTION

0-2900	No Description
2900-3063	Shale; medium gray, dark gray, blocky, partly lumpy, micaceous, pyritic, calcareous. @ 3000' with thin fine grained calcareous and glauconitic sandstone stringers - tight.
3063-3130	TOP OF THE MUDDY Shale; as above, increase in sandstone as above, traces of loose grains; fine, rounded, frosted, traces of fine grained sandstone; angular, frosted, glauconitic, calcareous, with slight porosity, traces of orange chert grains.
3130-3283	Shale; medium gray, blocky, micaceous, partly calcareous, traces of sandstone as above, traces of steel gray shale and traces of pyrite replaced fossils.
3283-3374	TOP OF THE DAKOTA SILT Shale; as above becoming softer and "chunkier" partly calcareous and traces of hard silty shale. Traces of brown siltstone and a few large calcite fragments.
3374-3430	Shale; dark gray, "gritty", pyritic, traces of hematitic siltstone, much shale as above.
3430-3490	Sandstone; light gray, fine grained, subangular, sub-rounded, frosted, partly bentonitic, pink and red mineral grain inclusions, traces of medium (floating) grains, tight.
3490-3566	TOP OF THE LAKOTA Sandstone; as above, becoming coarser grained, porous, with traces of milky white chert.
3566-3676	TOP OF THE MORRISON Shale; dark gray, sub-splintery, with white bentonite, some sandstone as above, traces of brick red hematitic siltstone.
3676-3804	Shale; as above with thin sandstone stringers; light gray fine grained, slightly calcareous, glauconitic, tight, traces of brown claystone and siltstone.
3804-3820	TOP OF THE SWIFT Sandstone; as above with slight porosity, becoming more calcareous and more glauconitic, locally slightly pyritic, with traces of siltstone; light to dark gray, shaly, glauconitic.
3820-4070	Shale; brown-gray, sub-splintery, slightly calcareous, with siltstone and sandstone as above.
4070-4120	TOP OF THE VANGUARD Sandstone; white, light gray, fine-grained, angular, calcareous, glauconitic, slightly porous, with streaks of gray to white bentonite.
4120-4254	Shale; pale green-gray, splintery, slightly calcareous, with some brown-gray and gray-brown sub-splintery to blocky shale, partly calcareous, with traces of shaly limestone, few siltstone stringers; light green-gray, calcareous, glauconitic, fine sandy and shaly.
4254-4360	TOP OF THE RIERDON Shale; gray-brown, gray-green, blocky to splintery and fissle, partly calcareous, pyritic, with traces of limestone; tan, cream, chalky, partly glauconitic.
4360-4429	Shale; as above with traces of pale red-brown blocky subwaxy shale; and some gray-brown limy, fossiliferous shale.

4429-4500	TOP OF THE PIPER Shale; brick red, blocky, calcareous, with some light green splintery shale.
4500-4565	TOP OF THE PIPER LIMESTONE Limestone; brown, sublithographic, fossiliferous, few calcite filled veins or fractures; at 4550, becomes partly argillaceous, sandy, with few glauconite inclusions.
4565-4650	Shale; gray-brown, blocky, sandy, some pale lavender-gray, subwaxy. At 4585, with maroon shale mottling. At 4600, much cave, traces of salmon colored lumpy shale, traces of brick red shale, traces of white and pink fine crystalline anhydrite.
4650-4700	Limestone; gray-tan, chalky, some gray-brown lithographic argillaceous limestone, traces of anhydrite as above. Interbedded with shale; varicolored, some green, blocky, lumpy subsplintery, partly splintery. At 4685 with limestone; tan, brown, sublithographic to subchalky, fractured, some with anhydrite-filled fractures; traces of white "earthy" dolomitic limestone.
4700-4765	Shale; varicolored, reds, grays, greens, blocky, lumpy, and subsplintery, abundant red silty to sandy shale, traces of red, salmon colored and orange-red lumpy shale. At 4755 with siltstone; maroon to light orange-red, hard, anhydritic, with anhydrite inclusions, limy in part.
4765-4820	TOP OF THE SPEARFISH Shale; maroon to light orange-red, hard, anhydritic, with inclusions of anhydrite, limy, with some red fine grained shaly silty sandstone; traces of white sandstone: fine to medium grained, some large rounded frosted floating grains, poorly sorted and tight; locally with pale green-gray mottling.
4820-4845	TOP OF THE AMSDEN Shale; red, some brick red, blocky, silty, anhydritic, dolomitic, with sandstone stringers; white, fine to medium grained, hard and tight.
4850-4900	Dolomite; pale lavender, pink, white, cream, cryptocrystalline, some with fossil fusulina; interbedded with shale as above.
4900-4994	Limestone; white to tan, sublithographic, interbedded with shale; pale green-gray, pale lavender-gray, traces of dark gray and red, splintery, calcareous; with traces of orange chert. At 4920 shale becomes partly blocky, some ochre mottling, traces of lavender shaly sandstone, tight. At 4930 with some black carbonaceous shale. At 4940 shale becomes gray, gray-green, with some red, maroon and lavender, splintery, fissle, calcareous. At 4950 limestone becomes tan, brown, sublithographic, with fossil ostracods, and with some interbedded apple green shale. Much shale as above.
4994-5020	TOP OF THE TYLER Shale; red, orange-red, lumpy, blocky, some shale as above.
5020-5090	Shale: as above, becoming harder and with sandy streaks; sandstone is white, some red, fine grained, dense, tight, calcareous, no show.

5090-5120 Sandstone: white, some red, medium to coarse grained, some loose grains, rounded, subangular, polished and hematitic, good porosity to 5100, then hard and tight, no shows. Much hematite.

5120-5170 TOP OF THE HEATH Shale, varicolored, much red, and green-gray, some ochre, lavender, and traces of black shale, blocky to splintery, partly dolomitic, some with fossil ostracods.

5170-5215 TOP OF THE OTTER Shale; as above, much gray-green limy shale, some sandy, interbedded with limestone; cream, "rusty", buff, white, sublithographic, and dolomite; green-gray and gray-tan, limy, argillaceous, cryptocrystalline.
At 5185 shale becomes gray, soft, lumpy, some dark green-gray, blocky, silty and limy, interbedded with limestone; dark green-gray, very argillaceous, sublithographic.
At 5200 limestone becomes dark brown-gray, sublithographic, to subchalky, fossiliferous, very argillaceous, and with some dark gray limy shale.

5215-5250 Dolomite; light gray-tan, tan-gray, some red mottling, earthy, very argillaceous, interbedded with tan-gray to gray dolomitic shale. Dolomite grades to limestone at 5225; and with increase in red argillaceous mottling, some red to lavender, blocky to lumpy shale.

5250-5285 Dolomite; pale red-tan, pink, some green mottling, earthy, argillaceous, anhydritic, with red to salmon colored blocky to lumpy shale mottling and with anhydrite inclusions. Shale content increases with depth from 50% to 75% at 5285.

5285-5303 Siltstone; light green-gray, gray-green, hard, shaly, dolomitic, sandy, with some sandstone; very fine grained, light green, silty, tight.

5303-5420 TOP OF THE KIBBEY SANDSTONE Sandstone; white, pink, some lavender, fine grained, subangular, frosted, dolomitic, silty, with floating medium sand grains, rounded and polished.
At 5320 sandstone becomes predominently salmon to brick red and as above; with salmon to brick red silty, sandy, and dolomitic shale partings. Few anhydrite inclusions. Interval is dense, hard and tight with no stain, no cut, slight (mineral) fluorescence.
At 5340 sandstone becomes (partly) medium grained, traces of friable sandstone with slight porosity. Some sandstone has light cut, or gas flower, on fresh break in CCl_4, no visible stain.
At 5350 with increase in red colored sandstone, decrease in grain size, more of the friable sandstone, no shows.
At 5360 with decrease in sandstone and with red lumpy shale.
At 5370 with siltstone; red, sandy, shaly, calcareous, and with traces of anhydrite, increase in red lumpy shale.

5420-5469	Siltstone; red, sandy, calcareous, interbedded with red and some green sandy, silty shale, and red shaly fine grained sandstone - tight. Few anhydrite inclusions.
5469-5490	TOP OF THE KIBBEY LIMESTONE Limestone; tan, some buff, subchalky, with brown anhydrite inclusions.
5490-5520	Sandstone; red, orange-red, salmon colored, shaly, dolomitic, with some white fine grained dolomitic sandstone stringers. Interbedded with salmon colored and red shale.
5520-5560	Siltstone; red, salmon colored, dolomitic, fine sandy, few anhydrite inclusions.
5560-5624	TOP OF THE CHARLES Limestone; gray, tan, gray-brown, sublithographic, argillaceous, with much shale (80-90%); varicolored, blocky, lumpy, splintery, mottled, partly dolomitic, partly non-calcareous, much light gray to green-gray, subsplintery and slightly limy shale. At 5624 - Circulated samples - 1-1/2 hour sample contained some white chalky limestone.
5624	TOTAL DEPTH

NO CORES

NO TESTS

SERVICE & TESTING

PRODUCTION &
INJECTION DATA

SURFACE EQUIPMENT

FORMATION TOPS

Eagle	1278	+ 952
Niobrara	2142	+ 88
Greenhorn	2489	- 259
Muddy	3063	- 833
Dakota Silt	3283	-1053
Lakota	3490	-1260
Morrison	3566	-1336
Swift	3804	-1574
Vanguard	4070	-1840
Rierdon	4254	-2024
Piper	4429	-2199
Piper Limestone	4500	-2270
Spearfish	4765	-2535
Amsden	4820	-2590
Tyler	4994	-2764
Heath	5120	-2890
Otter	5170	-2940
Kibbey Sandstone	5303	-3073
Kibbey Limestone	5469	-3229
Charles	5560	-3330
TOTAL DEPTH	5624	

Plugging &
Abandonment

GEOLOGICAL DATA

Form No. 2

GENERAL RULES
201, 202, 213,
216, 219, 233.1

(SUBMIT IN QUADRUPLICATE)

TO

OIL AND GAS CONSERVATION COMMISSION
OF THE STATE OF MONTANA
BILLINGS OR SHELBY

NOTICE
THIS FORM BECOMES A PERMIT WHEN STAMPED APPROVED BY AN AGENT OF THE COMMISSION

OCT 22 1965
OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA

SUNDRY NOTICES AND REPORT OF WELLS

Notice of Intention to Drill		Subsequent Report of Water Shut-off	
Notice of Intention to Change Plans		Subsequent Report of Shooting, Acidizing, Cementing	
Notice of Intention to Test Water Shut-off		Subsequent Report of Altering Casing	
Notice of Intention to Redrill or Repair Well		Subsequent Report of Redrilling or Repair	
Notice of Intention to Shoot, Acidize, or Cement		Subsequent Report of Abandonment	X
Notice of Intention to Pull or Alter Casing		Supplementary Well History	
Notice of Intention to Abandon Well		Report of Fracturing	

(Indicate Above by Check Mark Nature of Report, Notice, or Other Data)

June 22, 1965

Following is a ~~notice of intention to do work~~ / report of work done on land ~~owned~~ / leased described as follows:

LEASE Catlin

MONTANA (State) Roosevelt (County) Poplar (Field)

Well No. 1 NE SW (m. sec.) 28N (Township) 51E (Range) MPM (Meridian)

The well is located 1980 ft. from ~~N~~ S line and 1980 ft. from ~~E~~ W line of Sec. 26

LOCATE ACCURATELY ON PLAT ON BACK OF THIS FORM THE WELL LOCATION, AND SHOW LEASE BOUNDARY

The elevation of the derrick floor above the sea level is 2230 KB.

READ CAREFULLY DETAILS OF PLAN OF WORK READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.)

RECEIVED
JUN 28 1965
OIL AND GAS CONSERVATION COMMISSION OF THE STATE OF MONTANA - BILLINGS

DETAILS OF WORK
RESULT

From	To	Footage	Formation	Sacks
5120	5080	40	Tyler	20
4120	4100	20	Vanguard	20
3575	3490	85	Lakota	20
3110	3085	25	Muddy	20
1012	951	61	Bottom of surface	15
34	14	20	Top of surface	5

✓ LOG RECEIVED 1965
✓ REMOVED FROM WELL CARD

(LOCATION INSPECTED & APPROVED)

Approved subject to conditions on reverse of form

Date 10/21/65

By [signature] Title Supt.

District Office Agent

Company W. C. Partee

By W. W. Ballard

Title Partner BALCRON OIL COMPANY

Address 928 Broadwater Ave., office 106

NOTE:—Reports on this Form to be submitted to the District Agent for Approval in Quadruplicate.

WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL